The Zoological Society of Japan

ANNOTATIONES ZOOLOGICAE JAPONENSES
Volume 29, No. 1—March 1956

Published by the Zoological Society of Japan
Zoological Institute, Tokyo University

Some New and Little-known Species of Diaspididae from Japan (Coccoidea, Homoptera)

With 4 Text-figures

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(*Communicated by* M. UÉNO)

Pinnaspis juniperi n. sp.

Adult female: Scale white, narrow, slender, slightly broadened posteriorly, straight, about 1.5 mm. in length; larval skins yellow, 2nd larval skin not enlarged. Body narrow, slightly broadened posteriorly, not convex laterally on metathorax and abdominal segments. Antennae rounded or truncated apically, sometimes longer than wide, with a long seta. Eyes wanting or each represented by a minute pointed tubercle which is much expanded towards the base. Anterior spiracles with 3–6 parastigmatic pores, posterior spiracles with one or 2 pores. Gland spines absent on thorax and basal 2 abdominal segments, none, one or 2 short ones present on 3rd segment, one or 2 on 4th, 6 or 7 on the pygidium on each side. A small oval sclerotized boss present on submarginal area of basal abdominal segment, a smaller circular one also on 3rd. Marginal ducts 2 on metathorax and basal 4 abdominal segments, these ducts smaller than those on pygidium; pygidial marginal ducts 7 on each side. Submedian dorsal macroducts wanting, but a minute one present on basal 2 abdominal segments. Submarginal dorsal macroducts much reduced, a minute or small one present on 3rd abdominal segment, one or 2 small ones on 4th, none on other segments. Pygidium triangular, without preanal scars. Median lobes small, protruding, closely appressed together, but with a trace of division, one distinct notch on lateral margin; 2nd lobe obsolete, represented by 2 short rounded protuberances; zygosis of median lobes short, stout, blunt at anterior end; median sclerosis slender, not expanded, rounded or pointed at anterior end, almost reaching level of anterior ends of last marginal ducts. Perivulvar pores rather large, 3–6 in median cluster, 5–11 in lateral clusters. Body about 0.8–0.9 mm. long.

Host plant: *Juniperus rigida*.

Very common at Habiki Hills, Minami-Kawachi-gun, Osaka-fu; collected also at Unebi, Nara Prefecture (I. 1955).

This species is different from other known species of the genus in the ab-

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dominal segments not being convex laterally, and in the triangular pygidium, and is marked also by the dorsal macroducts being much reduced. It somewhat resembles *Cryptohemichionaspis*, but the larval skin is not enlarged and the pygidial marginal ducts are 7 on each side. The cotypes were collected by the writer and are in his collection.

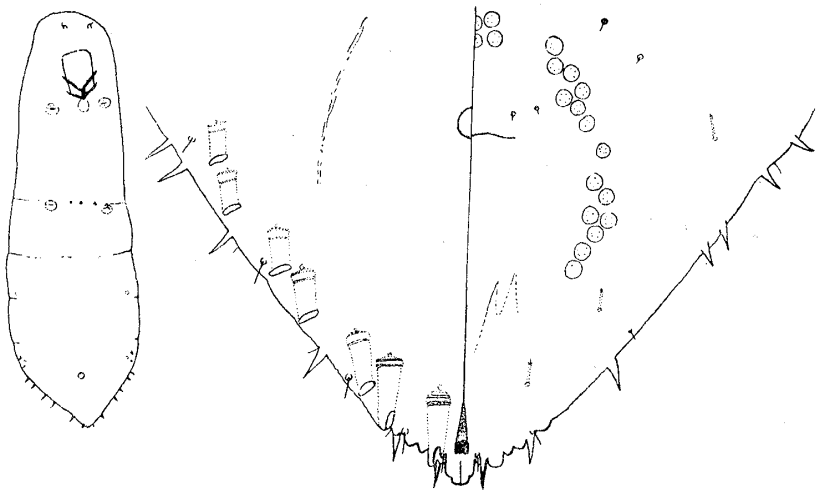

Fig. 1. *Pinnaspis juniperi* n. sp.
Body and pygidium.

Unaspis turpiniae Takahashi

Unaspis acuminata Green var. *turpiniae* Takahashi, Dept. Agric., Govt. Research Inst. Formosa, Rept. no. 63, p. 10 (1934).

Unaspis turpiniae Rao, Microentomology, XIV, p. 64 (1949).

Adult female: Scale pale in colour, almost translucent, narrow, tapering anteriorly on the anterior part, with a distinct longitudinal ridge. Body narrow, strongly sclerotized except on posterior part of basal abdominal segment and on following part of abdomen, a little protruding at site of eye, convex laterally on 2nd and 3rd abdominal segments. Antennae slightly separated from frontal margin, widely apart from each other, with a long seta. Gland spines wanting on metathorax, short, and about 7 on basal 2 abdominal segments, 3 in number and longer on 3rd segment, 2 on 4th. Marginal ducts about 9 on metathorax, about 5 on 2nd and 3rd abdominal segments. Other characters described in original diagnosis.

Host plant: *Turpinia ternata*.

Many specimens were taken by Mr. K. Sato at Kagoshima (22. III. 1953). Hitherto known from Formosa.

Acanthomytilus miscanthi n. sp.

Adult female: Scale pale yellowish brown, long, very slender, scarcely broadened posteriorly. Body narrow, slightly broadend posteriorly, broadest at 3rd abdominal segment, somewhat convex laterally on basal 4 abdominal segments.

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Antennae widely apart from each other, with 2 or 3 long setae. Eyes sclerotized, hemispherical. Anterior spiracles with one or 2 parastigmatic pores, posterior spiracles without them. Gland tubercles wanting on thorax, about 12 on basal abdominal segment, short conical gland spines 4–6 on 2nd abdominal segment, 4 on 3rd, one on 4th; pygidial gland spines very long, slender, 5 on each side of posterior part, wanting on anterior part. Marginal ducts small, 8 or 9 on mesothorax; ventral lateral ducts numerous on metathorax, the cluster extending beyond the posterior spiracle. Pygidial marginal ducts large, 5 on each side, the anterior one of which is smaller; these ducts prominently protruding, forming pointed tubercles, distinctly larger than dorsal ducts; prominence of last duct located above inner lobule of 2nd lobe. Submedian dorsal macroducts wanting on basal abdominal segment, one on 2nd and 3rd segment respectively, 4 or 5 on 4th, 4 on 5th, 3 or 4 on 6th, none on 7th; submarginal dorsal macroducts wanting on basal abdominal segment, 3 on 2nd, 2 on 3rd, one or 2 on 4th, 3 on 5th, 2 on 6th, one on 7th; pygidial dorsal ducts with a transversely narrowed orifice. Pygidium widely sclerotized on dorsum, wanting a median protuberance at hind end, a little pointed at margin between median and 2nd lobes, with a rounded broad protuberance above outer lobule of 2nd lobe, which is not sclerotized. Median lobes large, wider than long, broadly rounded at tip, not notched, parallel, much separated from each other; 2nd lobe bilobed, inner lobule large, much wider than long, outer lobule distinctly smaller, longer than wide, rounded apically; 3rd lobe wanting; 2 slender paraphyses present at base of median lobe, which are united anteriorly; a peculiar slender sclerosis arising from mesal paraphysis, which is abruptly extending anteriorly, narrowed anteriorly and with a

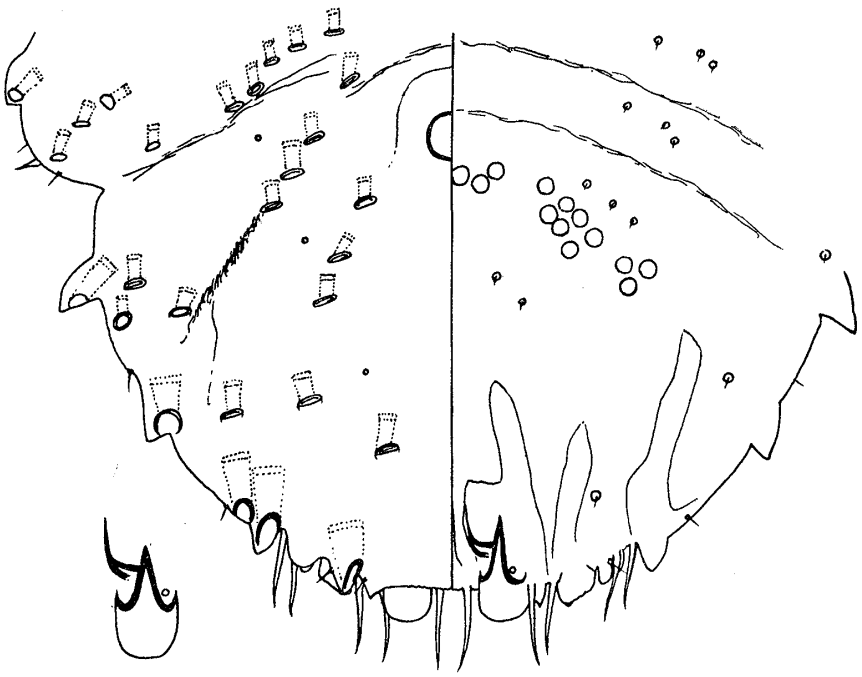

Fig. 2. *Acanthomytilus miscanthi* n. sp. Pygidium and median lobe with its paraphyses.

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branch directed laterad as shown in the accompanying figure; a pair of very short slender paraphyses present at base of inner lobule of 2nd lobe. Venter of pygidium with 3 large distinct dermal thickenings on each side, and with 3 submedian setae on 5th and anterior segments each. Perivulvar pores 4 or 5 in median cluster, 6 or 7 in latero-anterior cluster, 3–5 in latero-posterior cluster. Body about 0.8 mm. in length.

Host plant: *Miscanthus sinensis.*

Some specimens were collected by Mr. T. Tachikawa at Tsukumi, Oita Prefecture (10. VIII. 1953). The cotypes are in the writer's collection.

This species was previously misidentified by the writer as *Acanthomytilus arii* Kuwana (syn. *Lepidosaphes arii* Kuwana) and was listed as that species by the collector (New Entomologist, Ueda, IV, p. 56). It differs from that chiefly in the absence of a median process at the hind end of the pygidium, the larger outer lobule of the 2nd lobe, the fewer parastigmatic pores, the presence of prominent paraphyses at the base of the median lobe, and in the larger prominences of the pygidial marginal ducts. It is readily distinguished from *A. imperatae* Kuwana (syn. *Lepidosaphes imperatae* Kuwana) by the fewer dorsal ducts on the pygidium and the absence of a median protuberance at the hind end of the pygidium. It is apparently different from *A. intermittens* Hall, with which the specimens have been compared by Dr. W. J. Hall.

Fiorinia euryae Kuwana

Fiorinia euryae Kuwana, Imperial Plant Quarantine Service, Tech. Bull., no. 3, p. 13 (1925).

Fiorinia vacciniae Kuwana, Ibid., p. 15 (1925). Syn. nov.

Host plants: *Eurya japonica, Camellia japonica, Ilex* sp., *Sakakia ochnacea.*

Very common and widely distributed in Honshu (South of Tokyo), Kyushu and Shikoku.

The interantennal tubercle of the adult female of the present species is extremely variable in shape and size and is sometime minute or entirely wanting, and such variations are commonly found among individuals in the same colonies. *Fiorinia vacciniae* Kuwana is merely a form of this species. *F. euryae hisakaki* Takahashi from Formosa (Mushi, IX, p. 7) is different from the typical form in the narrower larval pellicle.

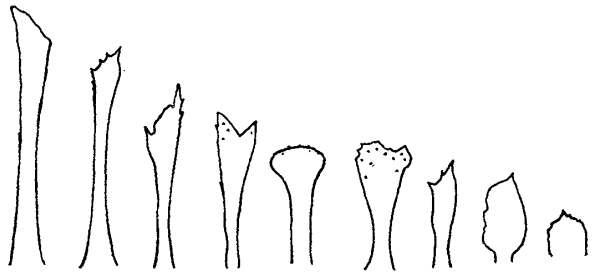

Fig. 3. *Fiorinia euryae* Kuwana. Variation of interantennal tubercle.

Fiorinia nachiensis n. sp.

Adult female: Scale pale yellowish brown, flattened. Second larval skin stout, about twice—2.2 times as long as wide, lacking long gland spines, about 1.1 mm. long; pygidium gradually protruding, slightly notched at hind end, with 5 marginal macroducts on each side, a slender gland spine between median and 2nd lobes, which is shorter than median lobe, a similar gland spine outside of

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2nd lobe, and with a larger gland spine near base; median lobes large, stout, diverging, connected basally by a zygosis, with distal part protruding and almost similar to median lobes of adult, but less serrate; 2nd lobe divided, with 2 short converging paraphyses at inner lobule. Body stout, with pygidium abruptly protruding. Interantennal tubercle wanting. Antennae almost at frontal margin, far separated from each other, without long process, with a long seta. Anterior spiracles with 2 or 3 parastigmatic pores, posterior spiracles without them; some microducts present between posterior spiracles. Gland spines small, conical and single on mesothorax, one or 2 on metathorax, 2 or 3 on basal abdominal segment; longer, swollen on basal half and 2 or 3 on 2nd abdominal segment, one or 2 on 3rd, one on 4th, wanting on pygidium. Pygidium much broader than long, not notched at hind end, with 4 rather narrow marginal macroducts on each side. Median lobes large, rounded, usually wider than long, entirely protruding, parallel, distinctly serrate, distinctly separated from each other, with a

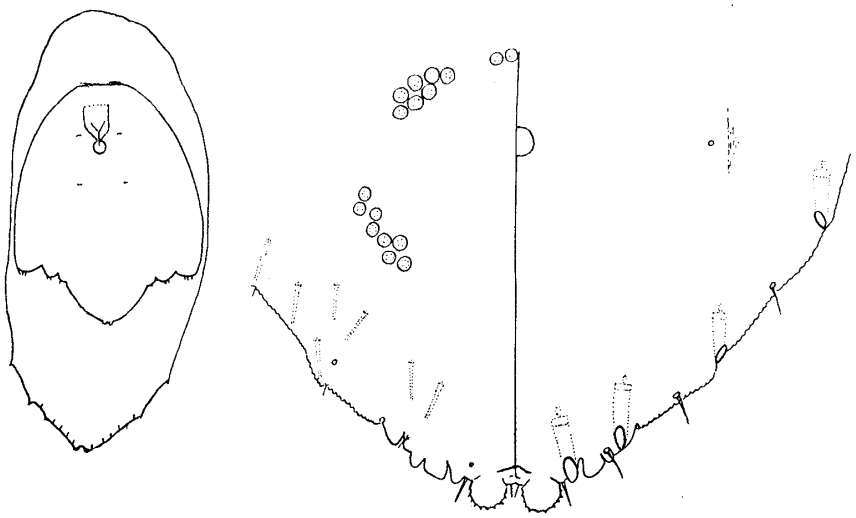

Fig. 4. *Fiorinia nachiensis* n. sp. Adult in 2nd larval skin and pygidium.

pair of minute setae between them; zygosis not distinct; 2nd lobe divided, inner lobule large, much wider than long, without paraphyses, outer lobule small. Pygidial marginal setae long. Ventral submarginal microducts about 7 on each side of pygidium. Perivulvar pores 1–5 in median cluster, 6–10 in latero-anterior cluster, 9–14 in latero-posterior cluster. Body about 0.65 mm. in length.

Host plant: *Rhododendron* sp. ("shakunagi").

Many specimens were taken by the writer at Nachisan, Wakayama Prefecture (13. VII. 1955). The cotypes in the writer's collection.

This species resembles *Fiorinia turpiniae* Takahashi in the shape of the median lobes, but differs much from that species in wanting an interantennal tubercle and in many other characters. It is apparently quite distinct from *F. rhododendri* Takahashi and *F. horii* Kuwana.

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